

REMARKS/ARGUMENTS

Claims 13-14, 20-28, 44, 48-57, 62 and 63 are pending.

Applicants respectfully request the amendment of claim 28 and cancellation of claim 29. The amendment would add the subject matter of claim 29 to claim 28 to better distinguish over Nelson.

Claims 13-14, 20-25, 28-29, 44, 48-51 and 54-57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nelson (6,074,827).

Applicants respectfully request reconsideration of this rejection in view of the following arguments.

Claims 13-14 and 20-27

The Examiner contends that Nelson anticipates claim 13 because Nelson shows an enrichment channel connected to an electrophoresis channel. The Examiner specifically asked Applicants to comment on this rejection and provide specific arguments as to why claim 13 is patentable over the reference, which Applicants will now do. Applicants previously amended claim 13 to read "a reaction chamber for subjecting the nucleic acid to an amplification reaction " to more particularly point out the invention and better distinguish over Nelson. Nelson's enrichment channel is not a reaction chamber for subjecting nucleic acid to an amplification reaction. It is an enrichment channel having capture media for capturing a target portion of the sample. Although Nelson's enrichment channel connected to an electrophoresis channel may be a useful device, it does not anticipate the device of claim 13 where a nucleic acid amplification chamber is connected via a transition region to a separation channel for separating the amplification products.

For at least the foregoing reasons, independent claim 13 and claims 14 and 20-27 depending therefrom are patentable.

Claim 28

Applicants respectfully submit that amended independent claim 28 is patentable over Nelson because, for instance, Nelson does not teach or suggest a device having a plurality of ligand binding sites connected to an isoelectric focusing channel. For at least the foregoing reasons, independent claim 28 is patentable.

Claims 44 and 48-53

Applicants respectfully submit that independent claim 44 is patentable over Nelson because, for instance, Nelson does not show or describe a device having a three-way valve at a junction of a side channel and a transition region connecting a reaction chamber to a separation channel.

In the last office action, the Examiner asked for Applicants to specifically comment on the Examiner's contention that Nelson shows a three-way valve in the Figures and to specifically address the Examiner's argument for rejection that Nelson also includes a reaction chamber, valves, etc., which Applicants will now do. Applicants disagree that any figures of Nelson show a three-way valve at a junction of a side channel and a transition region connecting a reaction chamber to a separation channel. In the device of Nelson where valves are described (Figs. 1 and 2), the device does not even have a reaction chamber, and the valves are not a three-way valve. Nowhere does Nelson teach or suggest a three-way valve at a junction of a side channel and a transition region connecting a reaction chamber to a separation channel. Thus Nelson fails to teach or suggest the structure recited in claim 44. For at least the foregoing reasons, independent claim 44 and claims 48-53 depending therefrom are patentable.

Claims 54-57 and 62-63

Applicants respectfully submit that independent claim 54 is patentable over Nelson because, for instance, Nelson does not show or describe a device having a first electrode coupled to a body adjacent a reaction chamber; a second electrode coupled to the body adjacent a transition region; and a third electrode coupled to the body adjacent a separation region, the electrodes being positioned such that when a first voltage is applied between the first and second electrodes, the components in the sample are transported from the reaction chamber to the transition region, and such that when a second voltage is applied between the second and third electrodes, the sample components are transported into the separation region.

In the last office action, the Examiner stated that the Applicants' arguments were not directed to the basis of the rejection, so Applicants will now try again to direct arguments to the basis of the rejection. The Examiner's rejection is based on Nelson showing a pretreatment area (construed as a reaction chamber by the Examiner) connected to an enrichment channel which is in turn connected to an electrophoresis channel having electrodes at opposite ends. This structure taught by Nelson does not anticipate or make obvious the device recited in claim 54. Nelson fails to teach or suggest the three electrode arrangement recited by Applicants in which a first electrode is coupled to a body adjacent a reaction chamber; a second electrode is coupled to the body adjacent a transition region; and a third electrode is coupled to the body adjacent a separation region, the electrodes being positioned such that when a first voltage is applied between the first and second electrodes, the components in the sample are transported from the reaction chamber to the transition region, and such that when a second voltage is applied between the second and third electrodes, the sample components are transported into the separation region.

For at least the foregoing reasons, independent claim 54 and claims 55-57 and 62-63 depending therefrom are patentable.

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Examining Group

PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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